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RICE Situation



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1975

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SECTION
NATIONAL RECORDS

Table 1.--Rice, rough equivalent: Supply, distribution and prices
United States, average 1965-69, annual 1972-75 1/*

Item	Year beginning August				
	1965-69 average	1972 <u>2/</u>	1973 <u>2/</u>	1974 (Pre1.)	1975 (Proj.)
	- - - - Million cwt. - - - -				
<u>Supply</u>					
Carryover August 1	9.5	11.4	5.1	7.8	7.1
Production	89.3	85.4	92.8	114.1	124.8
Imports	.2	.5	.2	3/	---
Total supply	99.0	97.3	98.1	121.9	131.9
<u>Domestic disappearance</u>					
Food <u>4/</u>	24.6	25.1	25.2	28.0	
Seed	2.8	3.0	3.6	3.8	
Used by brewers	5.6	7.6	8.2	8.4	
Total	33.0	35.7	37.0	40.2	41.4-42.2
<u>Available for export and carryover</u>	66.0	61.6	61.1	81.7	90.5-89.7
<u>Exports</u>	52.9	54.0	49.7	69.5	70.4-76.5
Total disappearance	85.9	89.7	86.7	109.7	111.8-118.7
<u>Carryover July 31</u>	11.3	5.1	7.8	7.1	20.1-13.2
Privately owned--"Free"	(8.5)	(5.0)	(7.8)	(7.1)	
Total distribution	97.2	94.8	94.5	116.8	131.9-131.9
<u>Difference unaccounted <u>5/</u></u>	+1.8	+2.5	+3.6	+5.1	
	- - - - Dollars per cwt. - - - -				
<u>Price support</u>					
National average loan rate	4.57	5.27	6.07	7.54	8.52
<u>Price received by farmers</u>					
Season average	4.96	6.73	13.80	10.45	
<u>Farm price above support</u>	.39	1.46	7.73	2.91	

1/ Data apply to only major rice-producing States. Milled rice converted to rough basis at annual extraction rate.

2/ Preliminary.

3/ Less than 50,000 cwt.

4/ Includes shipments to U.S. territories and rice for military food use at home and abroad.

5/ Results from loss, waste, the variation in conversion factors and incomplete data.

*See tables 2 and 3 for milled and rough rice supply and distribution.

THE RICE SITUATION

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The *Rice Situation* will be published in early 1976.

SUMMARY

The current 1975/76 outlook for rice features a record U.S. rice crop, a substantially larger world crop, continued strong world trade, and some easing in price.

A larger acreage and improved yields will push the U.S. rice harvest to a record 125 million cwt., 9% above 1974's record. Domestic and export demand is expected to continue to grow. Domestic use should add around 5% to last year's 40 million cwt. on the strength of the upward trend in food use and a rise in brewers' takings. Although demand in the Middle East will grow less than in 1974/75, overall world demand for rice will continue strong. However, an improved world crop suggests stronger competition for export markets this year, possibly lower prices and some possible gains in the volume of U.S. exports. Export commitments have been lagging, possibly reflecting some hesitation on the part of buyers until the price outlook becomes clearer. Even with a heavy disappearance, year-ending stocks may nearly double the 7 million cwt. of this summer.

Last year as the season progressed rice prices to producers rose some 10 to 15% from their harvesttime lows. Early price quotes for 1975 crop rice are generally ranging from \$9.00-10.50 per cwt., not too different from a year ago. But with part of the crop yet to be harvested and, with the world rice situation improved and U.S. rice stocks expected to build, grower prices may not strengthen as they did a year ago. Thus, the season average price to farmers likely will fall short of last year's \$10.45 per cwt.

The average U.S. retail price of long grain rice has stabilized since early 1975 at around 47 cents per 1-pound bag. About 15 cents is the farm value and 32 cents is the spread from farm to retail. Farm rice prices may average below year-earlier levels, but increases in the cost of getting rice from farmer to consumer may eat up much of the savings.

OUTLOOK FOR 1975/76

Rice Crop Sets New Record

As of September 1, the 1975 rice crop was estimated at a record 125 million cwt., 9% larger than last year's record outturn. Without quotas in effect for 1975 and strong rice prices last spring, producers expanded acreage for the third consecutive year to a record 2.8 million acres. Most of the expansion was in Arkansas, which now accounts for a third of the total rice area. Since 1972, rice acreage in Arkansas more than doubled while total U.S. acreage grew by almost 50%. Mississippi, although not a major rice producer, increased acreage three-fold over the period.

Higher yields in all states also contributed to the record harvest. However, this year's 4,543 pounds per acre is still well below the record 4,718 pounds set back in 1971 when acreage was much smaller.

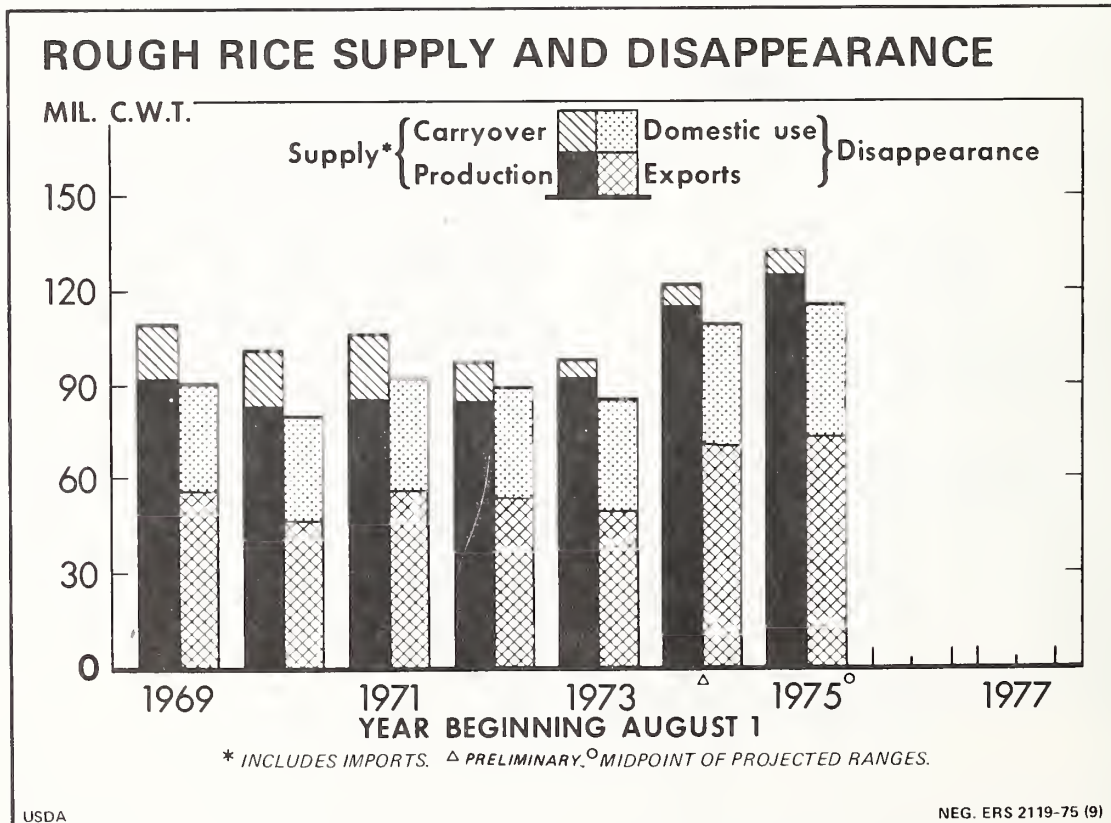
The increased importance of the Arkansas crop is evident in a number of ways. Arkansas is principally a producer of long and medium grain rice with a ratio of about 3 acres of long grain to 1 medium. The heaviest harvesting period in Arkansas is from mid-September to mid-October, while the

Rice Production

State	1965 crop	1970 crop	1975 crop
	1,000 cwt.	1,000 cwt.	1,000 cwt.
Texas	21,252	21,015	24,885
Arkansas	18,662	21,024	42,960
Louisiana	18,282	20,397	24,050
California	16,023	18,867	25,218
Mississippi	1,850	2,295	6,930
Missouri	212	207	770
U.S. Total ...	76,281	83,805	124,813

crops in Texas and Louisiana, the two other major rice producers in the South, are a month earlier. The harvest in California is typically the latest and producers there are expecting a big crop, too. Thus, the marketplace will be bracing for a huge influx of supplies beginning the latter part of September, much larger than would be typical for this period.

By the end of September, harvests in Texas, Louisiana, and Mississippi were winding up while Arkansas was about half complete and California was just moving into the heavy harvesting period.



Beginning Stocks Down But Supplies Record Large

Stocks of rice as of August 1 totaled 7 million cwt., fractionally below a year earlier. But about 3 million cwt. may have been earmarked for export since about 100,000 metric tons of outstanding sales were carried over from the 1974/75 marketing year. Consequently, available rice stocks were much smaller than the stock data suggested. Milled rice stocks, accounting for about 43% of the total, were smaller than a year ago. Of total stocks, medium grain were the largest, accounting for nearly 40% of the total. California, a major medium grain producer, held 40% of the total year-ending stocks. Long grain stocks were off, reflecting the strong export demand.

Rice carryover by class August 1, 1974 and 1975

Class	Rough		Milled ¹		Total	
	1974	1975	1974	1975	1974	1975
	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.
Long	2,132	1,450	1,642	926	3,774	2,376
Medium . .	939	1,263	1,741	1,444	2,680	2,707
Short	883	1,336	505	638	1,388	1,974
Total . . .	3,954	4,049	3,888	3,008	7,842	7,057

¹ Rough equivalent.

With minimal carryover stocks, the 1975 rice crop will dominate the supply available for 1975/76, as is the case for most U.S. grains this year. Total rice supplies are expected to reach a record of about 132 million cwt., 8% above last year's record.

Assuming that 1975 production patterns by State are similar to earlier years, estimated production by class for 1975 would be: long grain 68 million cwt., medium grain 47 million, and short grain about 10 million. Official data on rice production by class will be published in the December Crop Production Report.

The increase in this year's crop reflects larger long and medium grain harvests, while the short grain harvest appears to be down. Adding these

production estimates to August stocks as reported by the Statistical Reporting Service results in rice supplies shown below. Long grain dominates, accounting for over 50% of the total.

Domestic Use May Show Further Gain

In recent years domestic use of rice has grown on the average of about 2% a year. This rate of gain should at least be maintained in 1975/76. Food use may increase 4 or 5% from last year's 28 million cwt. because of both a larger population and some increase in per capita consumption.

The April 1975 *Rice Situation* reported that brewers' demand for rice appeared to be falling. However, since April, brewers' use picked up sharply and continued heavy for the remainder of the crop year. During recent months, use was running about 20% ahead of the average for the preceding 5 years. If the heavy consumption rate continues, brewers' use could approach 9 million cwt. in 1975/76, an increase of nearly 10%. Total domestic use for the year may range from 1 to 2 million cwt. above last year's record 40.2 million level.

Another Strong Export Year in Sight

A steady expansion in world rice consumption, supplemented by large Middle East purchases contributed to the record 1974/75 U.S. export year.¹ Although demand in the Middle East will grow less than in 1974/75, overall world demand for rice will continue strong in 1975/76. The 1975 world rice crop is expected to be substantially larger, suggesting keener competition among exporters as well as somewhat lower world prices for 1975/76.

Markets in recent years have certainly been anything but traditional. Booming markets in the Mideast, fueled by oil revenues, proved a boon for U.S. rice exports. While the dramatic 1974/75 growth in exports may be a one shot phenomenon, the level of U.S. exports to this market area in 1975/76 are expected to at least maintain the year earlier level of 15.5 million cwt. Last season the

¹See *World Rice Situation*, page 8.

Rough rice: U.S. supply by class, 1974 and 1975

Item	1974				1975			
	Long	Medium	Short	Total	Long	Medium	Short	Total
	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.	1,000 cwt.
Carryover	3,774	2,680	1,388	7,842	2,376	2,707	1,974	7,057
Production ¹	61,632	41,604	10,860	114,096	68,374	46,754	9,685	124,813
Total supply	65,406	44,284	12,248	121,938	70,750	49,461	11,659	131,870

¹ 1975 by classes estimated.

USSR purchased U.S. rice (0.3 million cwt.) for the first time in 12 years and there is a chance that purchases could be larger this year. Bangladesh, a large PL-480 market last season, will again have sizable food aid requirements. Some of our traditional commercial markets reduced total imports or bought more heavily from other suppliers, perhaps on a price basis, so competitive prices will be a factor in deciding whether U.S. rice can recapture these markets.

About 3 million cwt. (rough basis) of expected export sales were carried over into 1975/76. This, coupled with expected demand, should result in U.S. rice exports in 1975/76 totaling near last season's 69.5 million cwt. if not a tenth higher. Food aid, an important part of our export sales, is projected at around 800,000 tons for 1975/76. As of September 14, export commitments (outstanding sales plus shipments) totaled around 8 million cwt. (milled). Since this is behind last year's pace, it may reflect some hesitation on the part of buyers until new crop price outlook becomes clearer.

U.S. Milled rice exports to leading countries, August-July 1974/75 with comparisons

Country	1972/73	1973/74	1974/75
	1,000 metric tons	1,000 metric tons	1,000 metric tons
Korea, Republic of	471	121	499
Iran	40	20	462
Bangladesh	4	2	258
Canbodia	71	206	151
Iraq	—	9	110
Saudi Arabia ¹	57	94	72
Canada	64	81	61
South Vietnam	360	301	64
South Africa, Rep. pf ¹	83	86	53
Germany, West ¹	55	69	51
Indonesia	177	60	42

¹ Commercial sales. ² Less than 500 metric tons.

Stocks To Build

Even with prospects for a record large total disappearance of 112-119 million cwt., carryover stocks in the summer of 1976 would increase. The extent of the buildup will hinge on the vigor of export demand. In any case, it appears year-ending stocks will at least double the 7 million cwt. of this summer.

Rice Prices Ease on New Crop Basis

Wholesale prices of rice were strong coming into the 1974/75 crop year, reflecting some residual strength from the preceding year. Prices at most markets eased until late October 1974 when they rose seasonally. In most domestic markets the range of trading was around \$2.00 per cwt., indicating a far less volatile market than during the 2

Rough rice: Average weekly prices received by farmers in Louisiana, 1974 and 1975

Week ending		Long grain		Medium grain	
		1974	1975	1974	1975
<i>Dollars per hundredweight</i>					
August	29	8.47	9.29	10.20	9.11
September	5	10.66	9.33	10.43	8.79
	12	10.52	8.76	10.24	8.84
	19	9.62	8.82	9.78	8.33

Source: Rice Market News Service, AMS, Baton Rouge, La.

preceding years (table 9). New crop rice at the start of the 1974/75 season was trading from \$9.00-10.00 per cwt. at the farm. Following harvest, prices strengthened and topped out at over \$11.00 per cwt., and for the entire 1974/75 crop year averaged \$10.45 per cwt.

But what about 1975/76? Early price quotes have generally ranged from \$9.00-10.50. Mid month farm prices averaged \$9.80 per cwt. in August and \$8.88 in September. However, the full weight of the large California and Arkansas crops is yet to be felt in the marketplace. Current signs point to some buildup in U.S. stocks even with a record demand. The easing in world rice prices has been reflected in our wholesale prices at mills which have dropped about \$2 per cwt, since the season began. While growers have shown restraint in marketing rice, it seems unlikely that prices to the U.S. farmer will strengthen as they did a year ago. Thus, the average price to farmers may fall short of last year's \$10.45 per cwt.

The 1975 national average loan rate for rice was set at 65% of the August 1975 parity or \$8.52 per cwt. This is 46 cents above the preliminary loan rate announced last December. The value factors for whole kernels of rice and broken rice were increased to reflect the higher loan rate (table 8).

Retail Prices Flatten Out

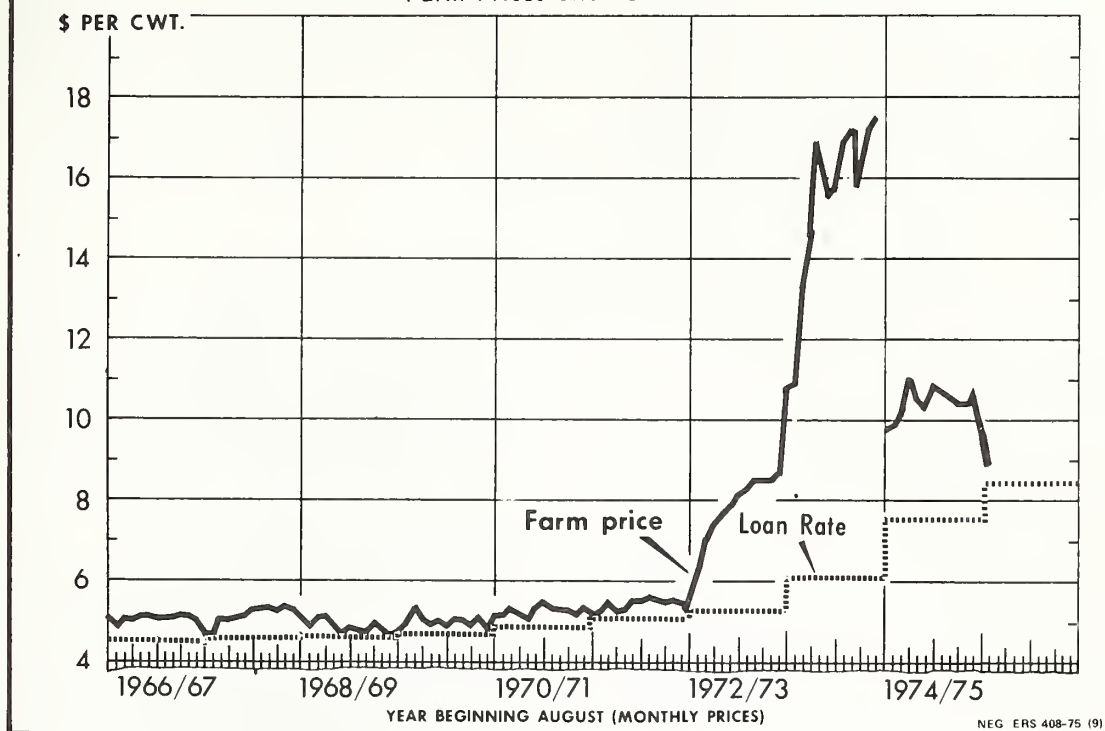
For much of calendar 1975 the retail price of a 1-pound bag of long grain rice hovered around 47 cents a pound. This is roughly 6 cents a pound below the record high set in June 1974. Since January the net farm value of rice in that retail bag has stabilized at around 15 cents per pound while the farm retail spread has averaged about 32 cents. The significant factor is that both shares apparently have stabilized at roughly double historic levels. It would seem questionable, given this stability, that retail rice prices would fall much further, even with 1975 crop rice prices expected to average somewhat below a year ago.

USDA Increases Loan Interest Rates

The U.S. Department of Agriculture announced the interest rate on price support commodity loans

ROUGH RICE

Farm Prices and Loan Rates



NEG ERS 408-75 (9)

Rice, long grain: Prices, value and farmer's share of retail price, by quarters, 1967-75

Year	Retail Price				Net Farm values ¹				Farm-retail spread				Farmer's share			
	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.	Jan.- Mar.	Apr.- June	July- Sept.	Oct.- Dec.
	Cents per lb.				Cents per lb.				Cents per lb.				Percent			
1967	21.8	21.9	21.9	22.0	7.5	7.5	7.0	7.4	14.3	14.4	14.9	14.6	34	34	32	34
1968	22.0	22.1	22.1	22.1	7.7	7.8	7.4	7.3	14.3	14.3	14.7	14.8	35	35	33	33
1969	22.3	22.4	22.5	22.6	6.9	7.0	6.7	7.2	15.4	15.4	15.8	15.4	31	31	30	32
1970	22.9	23.2	23.1	23.3	7.2	7.3	7.2	7.4	15.7	15.9	15.9	15.9	31	31	31	32
1971	23.6	23.8	24.0	24.0	7.8	7.7	7.7	7.7	15.8	16.1	16.3	16.3	33	32	32	32
1972	24.1	24.0	23.9	24.0	8.1	8.0	8.2	10.6	16.0	16.0	15.7	13.4	34	33	34	44
1973	25.2	26.7	28.2	42.9	11.6	12.3	15.1	22.7	13.6	14.4	13.1	20.2	46	46	54	53
1974	51.5	53.2	52.8	49.0	24.2	22.3	16.9	15.4	27.3	30.9	35.9	33.6	47	42	32	31
1975	47.4	47.3			15.3	15.1			32.1	32.2			32	32		

¹ Payment to farmers for equivalent quantities of rough rice (gross farm value) minus imputed value of by-products obtained in processing.

Source: National Economic Analysis Division, ERS.

and storage facility and drying equipment loans will be increased from 6.125 to 7.5% per annum, effective Oct. 1, 1975. The change reflects the increased cost to the Commodity Credit Corporation of borrowing money.

Rice Quotas Ahead for the 1976 Rice Crop?

Under current rice legislation, announcements on quotas and allotments for the 1976 crop must be

made by December 31, 1975. There are about 3 months to go, and conditions may change, especially in overseas markets. But supply-demand conditions now in prospect for the 1975/76 marketing year suggest that acreage allotments and marketing quotas may be in effect for the 1976 rice crop. If so, rice production will be limited to producers who hold rice allotments.

The determination of the need for marketing quotas under the legislation is triggered if "total supply" exceeds the "normal supply".

- (1) *Normal supply* is the sum of 1974/75 domestic consumption plus 1975/76 projected exports plus 10 percent of the sum of the above. Current estimates place normal supply at 122 to 128 million cwt.
- (2) *Total supply* is the sum of the carryover as of August 1, 1975 plus estimated 1975 production, plus projected 1975/76 imports. The current estimate of total supply is 132 million cwt.

Since indicated "total supply" exceeds the estimate of normal supply, today's conditions would require that a determination be made to impose marketing quotas for the 1976 crop. The related acreage allotment is the acreage that would produce enough rice (based on average yields for the past 5 years) which when combined with the carryover stock would yield a supply equal to estimated disappearance and carryover for the 1976/77 crop year.

WORLD RICE SITUATION¹

Record World Rice Crop in Prospect for 1975

It appears that the world's 1975 rice crop will be around 4% larger than last year's record 326 million metric tons (rough).² While the bulk of the Asian harvest is still a month or 2 away, a favorable monsoon season in Asia may boost world output about 4 million tons above the 1960-74 trend. A good part of the expected increase shows up in South and East Asia, particularly India, Indonesia, and Bangladesh. Asia's rice consumption requirements increase at least 2.5% a year so that even with a large crop only a limited rebuilding of stocks can be expected.

Weather and High Yielding Varieties Boost India's Crop

Favorable monsoons, larger acreages, and increased use of high yielding rice varieties (HYV) and fertilizer have contributed to prospects for a record rice crop in India. Current estimates place the crop around a tenth above last season's relatively poor 59.5 million metric tons. The area under HYV, which accounts for about a third of the total, is expected to provide about 60% of India's rice output in 1975/76, compared with slightly over one-fourth of the harvest in 1970/71. The new varieties, which mature quickly, fit neatly into multiple cropping patterns where wheat or vegetables are grown during the winter on the same land used for rice in the summer.

While India's total food grain harvest in 1975/76 may approach 112 million tons, compared with 102 million in 1974/75, imports will still be needed

¹Contributed by William F. Hall. Based on World Grain Situation: Outlook for 1975/76, Foreign Agricultural Service, World Agricultural Situation, WAS-8, September 1975. Data in metric units.

²The world rice harvest stretches over 6-8 months. Thus 1975/76 production represents the crop harvested in late 1975 and early 1976 in the Northern Hemisphere, and the crop harvested in early 1976 in the Southern Hemisphere.

because much of the increase will not get into distribution channels. Food grain imports in 1975/76 near the 1974/75 level of 6 million tons will be needed in order to rebuild stocks.

Another Large Rice Crop in the PRC

The People's Republic of China (PRC) produces about a third of the world's rice. The 1975 harvest is projected at around last year's level of 118 million tons. Reports on the early rice crop, harvested in July and August and the largest of the three rice crops, indicate production gains for all the important producing provinces except Kwangtung. Rainy, cool, and cloudy weather prevented optimum crop development in Kwangtung, the leading producer. Another large crop suggests that the PRC will again be an important supplier in export markets in 1976.

Crops Appear Good in Other Countries

Indonesia's growers likely will produce a crop 5% larger than last year's 23.8 million tons. With relatively large carryover stocks of 2.4 million tons, supplies will be large enough to allow some reduction in imports in 1975 and 1976 from the high levels of recent years. Indonesia has been the world's largest rice importer. Current major suppliers to Indonesia are the PRC, North Korea, and Thailand.

If weather continues favorable, the *Bangladesh* rice harvest in 1975/76 may be 5-10% above last season's 17.1 million tons. While this gain will cover part of this country's food deficit, food grain import requirements will still be large in 1975/76.

Burma's rice harvest for 1975 is estimated at 8.7 million tons. Present indications are that Burma's rice exports in 1975 may be double the 200,000 tons exported in the 2 previous years.

Favorable weather points to a 1975/76 rice harvest in *Thailand* moderately above last year's record 14.5 million tons. Exports of rice from Thailand this year are estimated at 1.3 million tons, 30% above 1974. The good 1975 crop will

allow Thailand to again be in a strong export position.

South Korea's rice harvest for 1975 is estimated at 6.4 million tons, up 3% over 1974. The record crop plus high stock levels may reduce import demand in 1976. Nearly all of Korea's rice imports will come from the United States.

World Import Demand Strong in 1975; May Weaken in 1976

World imports of rice for calendar 1975 are estimated at 7.6 million tons (milled), up 3% from 1974. Bangladesh, Hong Kong, Iran, Cambodia, South Korea, and Sri Lanka are expected to import more while Indonesia and South Vietnam will take less. The EC-9 and Philippines will import the same amount as in calendar 1974. Thailand and the U.S. should account for nearly half of world exports. The PRC is expected to continue exports at recent levels of nearly 2 million tons.

With 1975/76 crop prospects bright, world import demand in 1976 may decline from recent high levels. However, the substantially lower price levels for rice as well as the recent convergence in wheat-rice prices may limit the decline in the world's imports. Demand growth is generally strongest in countries which can least afford to import rice. In addition, oil revenues continue to stimulate demand and imports in the Mideast.

World Rice Prices Decline

Thailand's price for white 5% broken (f.o.b. Bangkok) is frequently cited as an indicator of world price levels particularly when Thailand is exporting large quantities of rice. Thai rice prices per ton fell 13% from early 1975 to August 1975, while

U.S. long grain prices (f.o.b. Houston) during the same period decreased only around 5%. U.S. rice prices have declined relative to Thai prices since the start of the U.S. harvest.

Thai rice export prices during most of 1974 were maintained at an artificially high level to discourage exports and to prevent high domestic prices. But late in 1974 Thailand lowered prices in an effort to compete with PRC and Pakistan rice exports. But strong Middle East demand for rice held up U.S. rice prices during this period.

Rice export prices for Thailand
and the United States

Year/month	Bangkok, f.o.b. white 5% broken	U.S. No. 2 long grain f.o.b. mill Houston
	Dollars per metric ton	Dollars per metric ton
Average		
1972	148	245
1973	350	481
1974	542	624
August	521	496
September	514	463
October	499	461
November	452	494
December	430	480
1975		
January	398	496
February	404	494
March	396	491
April	400	491
May	388	491
June	344	491
July	327	491
August	348	472

Note: This table indicates the direction of U.S. and Thailand rice prices since 1972, but should not be taken to imply that the types of rice specified above are of comparable quality.

RECENT CHANGES AND THE POTENTIAL FOR U.S. RICE ACREAGE

by
Warren R. Grant and Shelby H. Holder, Jr.¹

Abstract: Rice is grown in six major producing areas in the United States—Grand Prairie and northeast Arkansas, Mississippi River Delta, southwest Louisiana, Coast Prairie Texas, and Sacramento Valley California. With the lifting of government restrictions, acreage expanded from 2.2 million acres in 1973 to a record 2.8 million in 1975. There appears to be potential for further expansion, up to 4.4 million acres, with most of the possible increase in the Mississippi River Delta. Topography, drainage, availability of irrigation water, and practical crop rotation are factors which affect the potential for rice acreage. Economic conditions will dictate whether or not producers actually expand planted acreage. Current conditions indicate that rice holds an economic edge over other competing crops.

Keywords: Rice, rice acreage, rice culture, grain crops.

With the lifting of marketing quota restrictions, U.S. rice acreage expanded from 2.2 million acres in 1973 to nearly 2.8 million acres in 1975.² Dramatic expansions occurred in some major rice growing regions while very little change took place in others. From 1973 to 1975 rice acreages about doubled in northeast Arkansas and the Mississippi River Delta area of Arkansas. Total rice acreage in Arkansas increased by two-thirds, to 895,000 acres in 1975. The Mississippi River Delta area of Mississippi, Louisiana, and Missouri are now growing two to three times more rice than in 1973. In 1975 rice acreage in Mississippi totaled 165,000 acres. In the Delta area of northeast Louisiana it was estimated at 50,000 acres. In the Missouri Bootheel, the area more than tripled to 18,000 acres. California rice acreage in 1975 is up 15 percent over the 401,000 acres in 1973. On the other hand, southwest Louisiana and Coast Prairie, Texas showed very little change in acreage.

Why did some rice areas increase their rice acreage more rapidly than others? Expansion was directly related to the profitability of rice compared with alternative enterprises, the physical facilities

available for rice, and the features of government programs.

The current rice program provides for acreage allotments and marketing quotas. With the lifting of marketing quotas there were no government restrictions on plantings of rice. However, the recent increase in planted acreage has not affected the base acreage or history used in allotment determination. Therefore, new producers or traditional producers who planted above their allotments are not assured that they could grow rice on any additional acreage in the event that marketing quotas are reimposed in future years. This uncertainty may have discouraged expansion in some areas.

Two key physical requirements are that (1) the surface slope of the land should be relatively flat for irrigation water control, and (2) internal drainage should be poor in order to hold surface water in a flood condition. Land meeting these requirements is further restrained by the amount of irrigation water available and practical crop rotations. These factors are discussed for the major producing areas in terms of their near term potential for further expansion.

A descriptive view of the major rice areas provides some insight for further expansion. There are six major rice producing areas in the United States: (1) Grand Prairie Arkansas; (2) northeast Arkansas; (3) Mississippi River Delta; (4) southwest Louisiana; (5) Coast Prairie Texas; and (6) Sacramento Valley California. Combined, these six areas produce about 95 percent of the total U.S.

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²See March 1974 and April 1975 issues of the Rice Situations for a discussion of the 1974 and 1975 rice programs.

FIGURE 1. MAJOR U.S. RICE AREAS

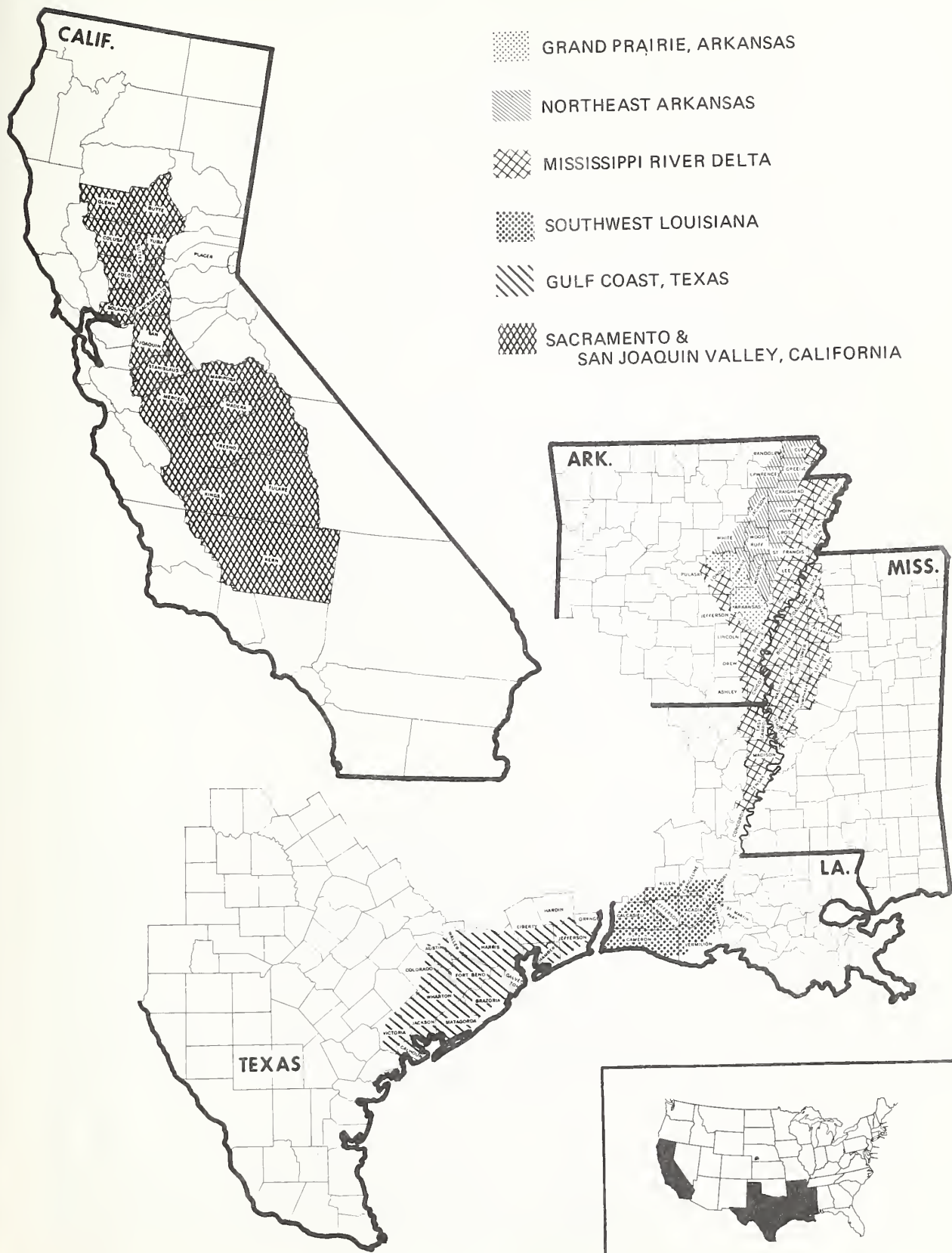


Table 1.--Estimated acres of cropland, acres suited to rice, potential acres annually and acres reported in 1973, 1974 and 1975 for the major U.S. rice areas

Area	Cropland <u>1/</u>			Acres reported <u>2/</u>		
	Total	Suited to rice	Potential rice acres <u>3/</u>	1973	1974	1975
	- - - - 1,000 acres - - - -					
Grand Prairie, Arkansas	533	431	200	190	217	220
Northeast, Arkansas	1,806	1,335	668	243	372	474
Delta, Arkansas	2,001	983	491	100	156	201
Subtotal, Arkansas	4,340	2,749	1,359	533	745	895
Delta, Mississippi	2,350	1,351	675	62	108	165
Delta, Louisiana	237	136	68	23	45	50
Southwest, Louisiana	1,794	1,794	897	597	628	600
Subtotal, Louisiana	2,031	1,930	965	620	673	650
Areas 1 & 2, Texas	1,270	1,206	286	263	269	265
Areas 3 & 4, Texas	1,280	1,224	310	286	293	288
Subtotal, Texas	2,550	2,430	596	549	562	553
Sacramento Valley, Calif.	661	661	503	365	425	425
San Joaquin Valley, Calif.	<u>4/</u>	<u>4/</u>	<u>4/</u>	56	42	42
Subtotal, Calif.	---	---	---	401	467	467
Delta, Missouri	1,397	559	279	5	14	18
Total	13,329	9,680	4,377	2,170	2,569	2,748

1/ Source: Grant, Warren R; Mullins, Troy; Campbell, Joe R.; Gerlow, Arthur R.; Welsch, Delane E.; and Bonnen, C.A. Resource Use Adjustments in Southern Rice Areas, Part I. Effects of Price Changes with Unrestricted Rice Acreages, Southern Cooperative Series Bulletin 122, June 1967.

2/ Harvested acreage by State and total are official SRS data. Area breakdowns are estimated by the authors but are based on county data when available.

3/ Approximate acreage that could be grown annually after taking into account limitations imposed by available water for irrigation and/or agronomic factors associated with rotations. These estimates were made in the mid-1960's but have been adjusted for known changes that have occurred since then.

4/ No estimate available.

rice crop. A comprehensive study of the cropland suitable for rice and the potential acres of rice was made in the mid-1960's. The study results with slight modifications are summarized in Table 1.

The Grand Prairie

Located in east-central Arkansas, this region includes portions of Arkansas, Lonoke, and Prairie Counties. The area is characterized by broad expanses of level to gently sloping land comprised largely of loessial terrace soils with an impervious clay pan 12 to 18 inches below the surface. External drainage is generally poor and the soils are only moderately fertile. Surface slope is the principal feature that determines the suitability of these soils for rice production. Cropland with more than 1 percent slope requires an excessive amount of levees for effective irrigation.

Rice competes with soybeans for land and water. With 1975 returns to operator's management and the risk from rice estimated to be well above that for soybeans, economic competition from soybeans takes second place. Of the estimated 535,000 acres of cropland in the Grand Prairie, 430,000 acres are suitable for rice production. However, total water supplies can sustain only about 200,000 acres of rice over a long period. In the past, larger acreages were planted to rice but serious drawdowns occurred in the underground water supply. With the 1975 acreage already slightly above the longer term potential, any sustained acreage at or above that level will continue to seriously affect the water supply for irrigation.

The Northeast Arkansas

This region, located between Crowley's Ridge on the east and the White and Black Rivers to the southwest and west, includes parts of 15 counties. A much wider range of soil conditions occurs here than in the Grand Prairie. Rice is grown on loessial terrace soils, or on clay or mixed alluvial bottomland soils. Soybeans are the main rotation crop with rice, and rice holds about the same favorable economic position over soybeans as in the Grand Prairie. Irrigation water is supplied mainly from underground strata from levels of 50 to 75 feet. No serious drawdown of the underground water level has been observed except in the extreme eastern side of this area. An estimated 670,000 acres of rice, or 50 percent of the cropland suited for rice production, could be sustained. Northeast Arkansas could expand about 200,000 acres above the 1975 level and still maintain practical rotations. Water is available for shortrun expansion above this level.

The Mississippi River Delta

The most extensive of the major rice growing areas, the Delta includes parts of 38 counties in Arkansas, Louisiana, Mississippi, and Missouri. Total cropland on farms suited for rice production in the Delta is estimated at nearly 6 million acres. About 3 million acres, comprised of clay and mixed soil with impervious subsoils, are suited to rice and the recent expansion has principally occurred on these soils. Rice acreage is scattered throughout the Delta, but concentrations are found in southeast Arkansas and in the central Delta counties of Mississippi. Of the total Delta cropland suited for rice production, about 45 percent is in Mississippi, nearly one-third in Arkansas, with the remainder in northeast Louisiana and Missouri. Soybeans are the main crop in rotation with rice. With estimated returns to the owner operator's management and risk only slightly below those realized in the Grand Prairie, soybeans are not competitive under 1975 conditions.

Irrigation water is supplied from shallow underground strata and from surface streams. Even though water supplies are adequate to irrigate much larger acreages, agronomic restrictions would likely impose practical limits on the potential acreage that could be grown annually in the Delta to about 1.5 million acres. Half of this remaining potential is in Mississippi. The Delta was a new rice area after World War II and rice acreage expanded rapidly during the early 1950's. However, acreage controls were imposed in 1955 restricting rice development. Lifting marketing quotas in 1974 and 1975 sparked expansion again, but this has been tempered by the uncertainty about future programs.

Southwest Louisiana

This rice growing area comprises most of the eight parishes in the southwestern part of the State. The area encompasses about 2.2 million acres of cropland, of which 1.8 million are physically suited for producing rice. Soil characteristics range from fine-textured, poorly drained clay soils located near the marsh areas along the Texas coast to coarser textured, moderately well drained silt loam soils located along the northern and eastern fringes of the rice growing area. Soybeans with rice or beef cattle with rice in 1 to 1 or 2 to 1 rotations are the main cropping patterns, but returns currently favor rice.

Sources of irrigation water are split about evenly between surface and groundwater. Hydrological studies indicate that groundwater levels are relatively static. Some problem of salt water intrusion does occur in drought periods. Even though

irrigation water exists in sufficient quantities, agronomic restrictions likely would hold maximum total annual rice acreage to less than 900,000 acres. The 1975 rice acreage, about two-thirds of the potential, changed very little from 1973. Uncertainty about government programs, prices, and markets, as well as risks associated with overexpanding and possible reduced acreage in the future, tended to discourage expansion.

The Coast Prairie Texas

Located along the eastern Gulf Coast of Texas, this region encompasses all or parts of 17 counties. The soils in this area are comprised of the dark colored clay and clay loams which lie near the coast marshes and the light colored loam and sandy loams situated just north and west of the heavier soils. Beef cattle is the main competing enterprise with rice, but returns currently favor rice. Water for about 60 percent of the rice acreage is supplied from irrigation canals and the remaining 40 percent comes from wells. Over 95 percent of the total cropland in this area is suited to rice. However, the amount of water available for irrigation limits rice acreage. It is estimated that around 600,000 acres of rice, or about a fourth of the cropland, could be sustained over long periods. Because industrial and

urban users are drawing heavily on the water supply, this area is operating near its maximum potential.

The Sacramento Valley California

This region is located in the northern part of the large Central Interior Valley and includes parts of eight counties. The potential rice producing farmers in these counties have about 660,000 acres of cropland, all of which is suited to rice. Most of the rice is grown on alluvial clay and clay adobe soils. Rice is grown mainly in rotation with small grains, sorghum, or safflower. Because of the high returns from rice to the owner operator's management and risk, competition from these other crops is limited. Rotation restrictions are not as limiting in this area as in the other rice areas. Runoff water from winter rains and snow is stored for summer irrigation. Rice producers not supplied by irrigation districts pump water from streams, drainage canals, and irrigation wells. The estimated potential rice acreage is 500,000 acres or about three-fourths of the cropland. The expansion of rice acreage in 1975 to 425,000 acres is about 85 percent of the potential.

About a tenth of the California rice crop is produced in the San Joaquin Valley. Potential rice acreage estimates are not available for this area.

IMPLICATIONS

With a potential of 4.4 million acres of rice in the established rice growing areas, the United States apparently has the physical capability of expanding acreage 60 percent above the 1975 level. Possible two-thirds of the remaining expansion possibility is in the Mississippi River Delta. An additional 12 percent is in northeast Arkansas. The untapped potential in southwest Louisiana may not be as large as projected since industrial and urban users of water are rapidly encroaching on supplies available for agriculture's use. Expansion in 1974 and 1975 has been limited by the uncertainty surrounding longer term development. The determination of marketing quotas is an annual decision based on supply and demand estimates and projections. Accordingly, growers are hesitant to expand when large investments in machinery and irrigation equipment are required.

An important question is, what economic or price incentives are needed to encourage a further acreage expansion? Probable production from the potential expansion outlined far exceeds domestic needs and current large exports. Thus, the key factor in future expansions hinges heavily on our export market and its effect on prices. Substantial

further expansion in acreage would require major structural adjustments in rice-related industries in the Delta and northeast Arkansas. Large increases in rice acreage would require larger inputs of water, machinery, fertilizer and chemicals, and increased facilities for drying and storage. Once these investments are made, any contraction in rice acreage becomes costly to producers and processors geared to the larger rice volume.

List of References

- (1) Grant, Warren R. and Troy Mullins 1975, "Estimated Costs and Returns Per Acre of Rice in Major Producing Areas 1975 Season," Texas Agricultural Experiment Station.
- (2) Campbell, Joe R., Warren R. Grant, Arthur R. Gerlow, C. A. Bonnen, and Delane E. Welsch 1967, "Resource Use Adjustments in Southern Rice Areas, Part I, Effects of Price Changes with Unrestricted Rice Acreages," Southern Cooperative Series Bulletin 122, Texas Agricultural Experiment Station.

Table 2.--Rice, rough: Supply and distribution, United States,
average 1965-69, annual 1970-74 1/

Item	Year beginning August					
	Average	1970	1971	1972	1973	1974
	1965-69				<u>2/</u>	<u>2/</u>
	- - - - 1,000 cwt. - - - -					
Beginning carryover	6,507	13,215	14,892	8,424	2,939	3,954
Farm production	89,345	83,805	85,768	85,439	92,765	114,096
Supply	95,852	97,020	100,660	93,863	95,704	118,050
Seed	2,814	2,531	2,500	3,032	3,609	3,800
Exports (rough only)	159	140	62	15	6	10
Used by mills	82,910	77,326	87,924	85,389	84,631	104,935
Total disappearance	85,883	79,997	90,486	88,436	88,246	108,745
Ending carryover	8,169	14,892	8,424	2,939	3,954	4,049
Statistical discrepancies <u>3/</u>	+1,800	+2,131	+1,750	+2,488	+3,504	+5,256

1/ Includes supply and distribution of rough rice only. See table 1 for rice, rough equivalent.

2/ Preliminary.

3/ Results from loss, waste, the lack of data on other uses, and incomplete data.

Table 3.--Rice, milled basis: Supply and distribution, United States,
average 1965-69, annual 1970-74 1/

Item	Year beginning August					
	Average	1970	1971	1972	1973	1974
	1965-69				<u>2/</u>	<u>2/</u>
	- - - - 1,000 cwt. - - - -					
Beginning carryover	2,162	2,328	2,752	2,196	1,606	2,803
Mill production <u>3/</u>	60,199	56,870	64,148	62,325	61,018	75,481
Imports	132	1,064	803	381	117	23
Supply	62,493	60,262	67,703	64,902	62,741	78,307
Food						
Shipments to territories	2,915	2,630	3,962	3,630	2,742	4,319
Used by military	145	227	183	151	162	164
Civilian consumption	14,789	15,557	14,452	14,506	15,314	15,631
Total food	17,849	18,414	18,597	18,287	18,218	20,114
Used by brewers	4,095	5,000	5,407	5,585	5,875	6,015
Exports	38,320	34,096	41,503	39,424	35,845	50,014
Total disappearance	60,264	57,510	65,507	63,296	59,938	76,143
Ending carryover	2,229	2,752	2,196	1,606	2,803	2,164
Per capita civilian consumption (pounds)	7.5	7.7	7.0	7.0	7.3	7.4

1/ Includes supply and distribution of milled rice only. See table 1 for rice, rough equivalent.

2/ Preliminary.

3/ Production of heads, second heads, screenings and brewer's rice.

Table 4 .--Rice, rough equivalent: CCC operations and privately held stocks, 1965-74

Crop of-	Placed under price support			Deliv- ered to CCC 1/	At year end July 31					Private- ly held ("Free") stocks 3/
	Loans	Direct purchases 2/	Total		Total carry- over	CCC stocks and loans outstanding				
						Stocks owned by CCC 2/	Under loan 2/	Total		

1/ Includes purchase agreements through 1963 marketing year and direct purchases thereafter.

2/ May include small quantities of new-crop rice in last few years.

3/ Derived by subtracting CCC stocks and loans outstanding from total carryover.

Table 5 .--Rice, rough: Acreage, yield and production, by States, 1974 and 1975

State	Acreage				Yield per harvested acre		Production	
	Planted		Harvested					
	1974	1975 1/	1974	1975 1/	1974	1975 1/	1974	1975 1/
	1,000 acres				Pounds		1,000 cwt.	
Southern States:								
Missouri	15.0	18.0	14.0	17.5	3,886	4,400	544	770
Mississippi	114.0	170.0	108.0	165.0	4,180	4,200	4,513	6,930
Arkansas	750.0	900.0	745.0	895.0	4,611	4,800	34,352	42,960
Louisiana	674.0	652.0	673.0	650.0	3,673	3,700	24,720	24,050
Texas	565.0	555.0	562.0	553.0	4,494	4,500	25,258	24,885
Total Southern	2,118.0	2,295.0	2,102.0	2,280.5	4,252	4,367	89,387	99,595
California	470	470	467	467	5,291	5,400	24,709	25,218
Total United States 2/	2,588.0	2,765.0	2,569.0	2,747.5	4,441	4,543	114,096	124,813

1/ Preliminary.

2/ Total U.S. acreage and production reported by the Statistical Reporting Service. Excludes acreage and production in the minor Southern States.

Table 6.--Rice: Stocks, rough and milled, United States, for selected dates, 1970-75 1/

Year	Rough					Milled				
	On farms or in farm warehouses	At mills and in attached warehouses	In warehouses (not attached to mills)	In ports or in transit	Total all positions	At mills and in attached warehouses	In warehouses (not attached to mills)	In ports or in transit	Total all positions	
	----- 1,000 cwt. -----					----- 1,000 cwt. -----				
	January 1					January 1				
1970	10,536	16,854	36,348	91	63,829	1,699	3	1,346	3,048	
1971	10,121	13,388	35,877	11	59,397	2,606	155	1,788	4,549	
1972	10,924	12,999	36,750	27	60,700	2,666	840	2,160	5,666	
1973	4,714	13,703	30,427	---	48,844	1,787	426	2,086	4,299	
1974 2/	7,732	13,651	30,783	1	52,167	2,650	127	1,117	3,894	
1975 2/	13,772	15,177	39,769	160	68,878	2,959	634	699	4,292	
	April 1					April 1				
1970	4,855	12,333	26,744	30	43,962	2,007	48	1,004	3,059	
1971	3,335	10,416	21,556	29	35,336	3,684	33	769	4,486	
1972	3,531	8,746	20,347	11	32,635	2,548	336	1,743	4,627	
1973	1,476	9,142	13,638	11	24,267	3,479	52	1,354	4,885	
1974 2/	1,537	10,048	15,113	14	26,712	2,459	12	2,783	5,254	
1975 2/	2,919	10,579	20,823	24	34,345	2,961	22	1,286	4,269	
	August 1					August 1				
1970	242	4,955	7,890	128	13,215	1,743	86	499	2,328	
1971	203	4,520	10,169	---	14,892	2,273	58	421	2,752	
1972	133	2,681	5,604	6	8,424	1,966	67	163	2,196	
1973	94	1,931	914	---	2,939	1,389	21	196	1,606	
1974 2/	77	2,589	1,278	10	3,954	2,258	22	523	2,803	
1975 2/	62	1,455	2,462	70	4,049	1,589	58	517	2,164	
	October 1					October 1				
1970	---	974	6,754	6	7,734	446	55	336	837	
1971	---	1,606	5,933	26	7,565	1,110	240	503	1,853	
1972 3/	---	---	---	---	---	---	---	---	---	

1/ These estimates do not include stocks located in States outside the major producing States of Missouri, Mississippi, Arkansas, Louisiana, Texas, and California.

2/ Preliminary.

3/ Southern rice stocks discontinued beginning October, 1972.

Table 7.--Rice, U.S.: Rough milled, total milled production and yields, 1965-74

Year beginning August	Rough milled	Total milled produced 1/	Milling yields	Total heads produced 1/	Milling yields
	----- 1,000 cwt. -----		Pounds per cwt.	----- 1,000 cwt. -----	Pounds per cwt.
1965	70,594.6	50,377.3	71.36	42,862.2	60.72
1966	80,209.8	58,381.6	72.79	49,903.2	62.22
1967	88,115.7	64,079.7	72.72	54,405.5	61.74
1968	89,086.4	65,240.1	73.23	55,771.2	62.60
1969	86,544.3	62,349.6	72.04	53,138.2	61.40
1970	77,325.6	56,870.0	73.55	49,533.4	64.06
1971	87,924.6	64,148.2	72.96	55,346.8	62.95
1972	85,389.0	62,325.3	72.99	53,868.0	63.09
1973	84,631.2	61,018.1	72.10	52,249.6	61.74
1974 2/	104,935.2	75,481.4	71.93	64,269.4	61.25

1/ Includes brown rice.

2/ Preliminary.

Based on reports from the Rice Millers Association and San Francisco Rice Market News.

[illegible]

1/ The method of computing 1972-1975-crop rough rice basic support rates is the same as that used in prior rice programs except that under the new rice standards, rice is classified by size and shape of kernel rather than variety. The basic support rates are applicable to No. 2 rice and will be adjusted by the following premium and discounts for U.S. grades per cwt.s.: No. 1, premium reduced to 5 cents in 1974 and 1975, prior years 10 cents; No. 3, discount of 15 cents; No. 4, discount of 30 cents; and No. 5, discount of 50 cents. The premium and discounts are unchanged from 1970 except for No. 1. A further discount for location, to adjust for transportation costs of moving the rough rice to an area where competitive milling facilities are available will also be made for rice produced in certain areas.

2/ Mid-July parity price which is legal parity for August.

Agricultural Stabilization and Conservation Service.

Table 9 --Rice, rough: Price per 100 pounds received by farmers,
by States and United States, 1968-75

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Season Average 1/
----- Dollars -----													
Arkansas													
1968	5.30	4.75	4.90	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.07
1969	5.20	4.75	5.00	5.30	5.20	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.32
1970	5.30	5.40	5.40	5.50	5.50	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.41
1971	5.30	5.50	5.70	5.70	5.70	5.80	5.80	5.80	5.80	5.80	5.80	5.70	5.62
1972	5.70	6.70	7.20	7.60	8.20	8.50	8.50	8.50	8.50	8.80	8.80	3/	7.20
1973 2/	---	13.70	15.30	16.00	16.00	16.00	18.00	18.50	16.50	17.00	17.50	3/	15.30
1974 2/	---	9.50	9.80	10.00	9.30	9.80	10.00	10.20	10.00	10.00	10.00	3/	9.60
1975 2/	---	8.50											
Louisiana													
1968	4.80	4.75	4.85	5.00	5.00	4.95	5.10	4.85	4.80	4.65	4.55	4.40	4.83
1969	4.50	4.75	4.70	4.90	4.85	4.85	4.85	4.70	4.75	4.85	5.00	4.65	4.71
1970	4.95	4.90	4.95	4.90	5.00	5.20	5.20	5.00	5.00	5.00	5.00	5.20	4.96
1971	5.00	4.90	4.90	5.00	5.10	5.30	5.40	5.40	5.50	5.50	5.50	5.20	5.05
1972	5.20	6.00	6.80	7.30	7.60	8.00	8.20	8.40	8.80	8.80	3/	3/	6.40
1973 2/	10.80	12.30	13.30	16.80	14.80	15.50	16.00	16.10	14.10	3/	3/	3/	13.45
1974 2/	9.55	10.10	10.85	11.45	11.35	10.65	11.05	10.75	10.50	3/	3/	3/	10.50
1975 2/	9.55	9.10											
Mississippi													
1968	---	---	5.20	5.20	5.10	5.20	5.40	5.40	5.20	5.20	5.20	5.20	5.20
1969	5.20	4.90	5.20	5.30	5.30	5.30	5.30	5.30	5.30	5.20	5.20	5.20	5.27
1970	5.30	5.20	5.20	5.20	5.40	5.40	5.40	5.30	5.30	5.40	5.40	5.40	5.28
1971	5.40	5.50	5.60	5.60	5.70	5.70	5.70	5.80	5.80	5.80	5.80	5.40	5.63
1972	5.50	5.50	6.00	6.80	7.10	7.50	7.80	7.80	7.60	7.60	8.50	9.00	7.00
1973 2/	---	---	14.50	18.00	17.50	16.50	18.00	18.00	14.00	3/	3/	3/	17.20
1974 2/	---	10.10	10.45	10.55	9.90	10.00	10.20	10.45	10.00	10.00	3/	3/	10.20
1975 2/	---	8.90											
Texas													
1968	5.30	5.10	5.00	5.10	4.60	4.30	4.30	4.30	4.30	4.50	---	4.40	4.97
1969	4.40	5.00	4.90	4.80	4.80	4.80	4.75	4.85	4.90	4.75	4.75	4.75	4.88
1970	5.40	5.20	5.10	5.20	4.85	5.30	5.60	5.50	5.50	5.50	5.50	5.40	5.25
1971	5.30	5.20	5.20	5.20	5.30	5.50	5.50	5.50	5.50	5.50	5.50	5.40	5.35
1972	5.50	6.20	6.90	7.10	7.50	7.50	8.00	8.20	8.50	8.50	8.70	11.00	6.44
1973 2/	11.00	13.70	14.90	16.60	15.60	15.80	16.70	16.70	17.00	17.50	17.50	3/	14.80
1974 2/	9.80	10.60	11.20	11.80	11.00	10.55	11.35	10.75	11.00	11.00	11.00	11.00	10.70
1975 2/	10.10	9.80											
United States 4/													
1968	5.06	4.92	5.03	5.09	4.92	4.72	4.84	4.80	4.78	4.90	4.80	4.63	5.00
1969	4.71	4.99	5.23	5.05	4.98	4.99	4.96	5.01	5.00	4.98	5.10	4.80	4.95
1970	5.16	5.18	5.26	5.19	5.09	5.31	5.44	5.36	5.33	5.30	5.20	5.33	5.17
1971	5.15	5.24	5.46	5.25	5.30	5.53	5.55	5.60	5.58	5.57	5.58	5.35	5.34
1972	5.34	6.37	7.05	7.42	7.64	7.84	8.14	8.26	8.51	8.56	8.74	10.80	6.73
1973 2/	10.90	13.30	14.80	16.70	15.50	15.80	16.90	17.20	15.90	17.20	17.50	3/	13.80
1974 2/	9.67	9.85	10.25	11.10	10.50	10.30	10.80	10.60	10.50	10.40	10.40	11.00	10.45
1975 2/	9.80	8.88											

1/ State and U.S. season average prices include an allowance for unredeemed loans and purchases by the Government, valued at the average loan rate, by States. Monthly prices do not include this allowance.

2/ Preliminary.

3/ Insufficient sales.

4/ California is excluded in the monthly averages but is included in the U.S. season average.

Table 10.--Rice, milled U.S. No. 2 f.o.b. mills: Average price of Southern head rice at milling centers, by months, 1970-75

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
----- Dollars per cwt. bagged -----													
Houston, Texas, Long Grain													
1970	10.00	9.90	10.00	10.00	10.00	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.05
1971	10.10	10.10	10.10	10.10	10.10	10.20	10.25	10.25	10.25	10.25	10.25	10.25	10.20
1972	10.55	11.55	12.40	13.50	13.50	13.75	15.00	15.00	16.50	17.25	17.25	17.25	14.45
1973	20.20	28.80	32.20	34.50	33.85	33.10	34.25	33.25	33.40	33.25	32.60	31.50	31.75
1974 1/	22.50	21.00	20.90	22.40	21.75	22.50	22.40	22.25	22.25	22.25	22.25	22.25	22.05
1975 1/	21.40	20.50											
Houston, Texas, Medium Grain 2/													
1970	8.65	8.70	8.80	8.90	8.90	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.90
1971	9.00	9.00	9.00	9.00	9.00	9.15	9.25	9.25	9.25	9.25	9.25	9.25	9.15
1972	9.55	10.50	11.70	13.00	13.00	13.20	14.00	14.00	15.40	16.00	16.00	16.00	13.55
1973	16.80	23.30	26.10	30.25	30.20	29.10	29.50	29.00	29.00	28.60	28.50	28.50	27.40
1974 1/	22.00	20.20	18.75	20.05	20.00	20.25	19.75	19.50	19.50	19.50	19.50	19.50	19.90
1975 1/	19.75	19.80											
Arkansas, Long Grain													
1970	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10
1971	10.10	10.10	10.10	10.10	10.10	10.10	10.40	10.40	10.40	10.40	10.40	10.40	10.25
1972	10.40	11.20	12.20	13.50	13.50	13.50	15.00	15.00	16.45	17.25	17.25	17.10	14.35
1973	19.75	25.60	30.10	33.00	33.00	33.60	34.50	34.25	34.00	32.50	30.60	29.00	30.80
1974 1/	25.90	22.40	21.90	23.00	23.00	22.75	22.10	22.50	21.55	21.25	21.25	21.25	22.40
1975 1/	20.90	20.05											
Arkansas, Medium Grain 2/													
1970	8.55	8.70	8.90	8.90	8.90	9.05	9.10	9.10	9.10	9.10	9.10	9.10	8.95
1971	9.10	9.10	9.10	9.10	9.10	9.10	9.40	9.40	9.40	9.40	9.40	9.40	9.25
1972	9.40	10.15	11.60	13.00	13.00	13.00	14.00	14.00	15.45	16.25	16.25	15.00	13.45
1973	16.20	19.50	25.00	28.50	28.50	28.70	29.00	29.50	30.00	29.00	28.75	27.50	26.70
1974 1/	25.40	20.80	20.75	21.50	21.50	21.40	21.00	21.00	20.45	20.20	20.00	20.00	21.15
1975 1/	20.00	19.20											

1/ Preliminary. 2/ Mostly Mato.

Agricultural Marketing Service, Grain Division.

Table 11 --Rice: Monthly average price at Southwest Louisiana, 1969-75

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Average
----- Dollars -----													
Milled, Long-grain Second Head, per 100 pounds, bagged 1/													
1969	6.00	5.95	5.75	5.75	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80
1970	5.80	5.80	5.90	5.90	5.90	5.90	5.95	6.10	6.10	6.10	6.10	6.10	5.95
1971	6.10	6.10	6.10	6.10	6.05	5.90	5.90	5.90	5.90	5.90	5.90	5.90	6.00
1972	5.90	6.00	6.60	7.90	8.00	8.00	8.00	8.00	8.50	8.00	8.00	8.00	7.60
1973	9.00	10.00	12.05	14.60	15.50	15.50	15.50	16.00	16.00	16.00	15.00	13.50	14.05
1974 2/	12.75	11.55	12.00	12.00	13.10	13.75	13.80	13.35	12.75	11.90	12.10	10.50	12.45
1975 2/	9.25	9.75											
Milled, Medium-grain Second Head, per 100 pounds, bagged 1/													
1969	6.00	5.95	5.75	5.75	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80
1970	5.80	5.80	5.90	5.90	5.90	5.90	5.95	6.10	6.10	6.10	6.10	6.10	5.95
1971	6.10	6.10	6.10	6.10	6.05	5.90	5.90	5.90	5.90	5.90	5.90	5.90	6.00
1972	5.90	6.00	6.60	7.90	8.00	8.00	8.00	8.00	8.50	8.00	8.00	8.00	7.60
1973	9.00	10.00	12.05	14.60	15.50	15.50	15.50	16.00	16.00	16.00	15.00	13.50	14.05
1974 2/	12.75	11.55	12.00	12.00	13.10	13.75	13.80	13.35	12.75	11.90	12.10	10.50	12.45
1975 2/	9.25	9.75											
Rice Bran, f.o.b. mills, per ton 3/													
1969	22.50	24.30	30.00	32.75	35.50	39.00	39.50	34.10	30.50	27.50	28.50	28.50	31.05
1970	28.75	33.40	35.00	40.50	46.50	48.00	45.40	47.40	50.00	50.00	45.30	43.00	42.75
1971	37.00	29.60	30.00	30.80	39.50	40.50	40.50	33.25	34.00	34.00	34.00	34.00	34.75
1972	32.40	31.40	36.60	42.10	51.00	63.40	60.00	51.00	39.25	53.25	58.00	58.00	48.05
1973	61.10	56.40	62.80	71.50	83.40	87.50	71.80	76.25	72.30	74.25	64.30	59.20	70.05
1974 2/	83.75	78.50	78.75	80.00	83.10	85.00	76.90	57.50	57.50	56.75	59.50	63.50	71.70
1975 2/	64.00	68.00											
Rice Millfeed, f.o.b. mills, per ton, bagged 4/													
1969	15.50	15.50	18.00	19.75	21.50	28.00	28.00	22.70	18.50	16.00	16.40	18.25	19.85
1970	18.90	21.50	21.50	23.30	27.35	28.00	26.90	30.10	35.00	35.00	28.70	25.00	26.75
1971	15.10	11.00	8.50	11.40	19.00	21.00	14.10	11.00	11.00	11.00	11.00	11.00	12.95
1972	11.00	11.00	13.60	18.90	26.00	35.40	31.25	21.00	19.00	24.75	26.25	25.00	21.95
1973	24.00	18.00	20.70	33.25	44.15	37.90	20.25	25.25	22.40	23.00	23.10	22.90	26.25
1974 2/	38.50	35.10	26.60	28.25	30.50	31.15	22.25	14.50	14.10	14.75	16.60	23.00	24.60
1975 2/	24.65	32.20											

1/ U.S. No. 4 or better at Southern mills. 2/ Preliminary. 3/ Prices quoted as bulk. 4/ Beginning August 1971, prices are quoted on a bulk basis.

Table 12 --Rice: Retail prices in leading cities of the United States,
August-July, 1967-75

Year beginning August	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Simple Average
	- - - - Cents per pound - - - -												
	Long grain												
1967	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
1968	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
1969	.23	.23	.23	.23	.23	.23	.23	.23	.23	.23	.23	.23	.23
1970	.23	.23	.23	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24
1971	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24
1972	.24	.24	.24	.24	.24	.25	.25	.26	.26	.27	.27	.28	.25
1973	.28	.30	.34	.46	.49	.50	.52	.52	.53	.53	.54	.53	.46
1974	.53	.52	.51	.49	.48	.47	.47	.48	.47	.47	.47	.47	.49
1975	.47												
	Short grain												
1967	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19
1968	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19
1969	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19
1970	.19	.19	.19	.19	.19	.19	.20	.20	.20	.20	.20	.20	.20
1971	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20
1972	.20	.20	.20	.20	.20	.20	.21	.22	.23	.23	.24	.24	.21
1973	.24	.25	.28	.37	.41	.42	.43	.44	.45	.45	.45	.45	.39
1974	.44	.45	.44	.42	.42	.41	.42	.41	.41	.41	.41	.40	.42
1975	.41												

Compiled from reports of Bureau of Labor Statistics, Department of Labor.

Table 13.--Prices: California brewers rice and New York brewers corn grits,
August-July 1972/73-1974/75

Month	California brewers rice			New York brewers corn grits		
	1972/73	1973/74	1974/75	1972/73	1973/74	1974/75
	- - - - Dollars per cwt. - - - -					
August	5.50	6.75	9.00	4.29	8.35	9.40
September	5.50	7.00	9.25	4.59	7.56	9.28
October	5.50	7.40	9.50	4.41	7.40	10.41
November	5.50	8.50	9.55	4.22	7.14	9.42
December	5.50	8.50	9.75	NA	7.40	9.48
January	5.50	9.00	9.75	NA	7.56	9.17
February	5.50	9.00	9.75	4.67	8.10	8.87
March	5.90	9.00	9.65	4.98	8.00	8.64
April	6.00	9.00	9.50	5.10	7.48	8.69
May	6.50	9.00	9.50	5.61	7.31	8.49
June	6.50	9.00	9.00	6.43	7.80	9.06
July	6.50	9.00	9.00	6.97	8.95	9.23
August-July average	5.80	8.40	9.45	5.13	7.75	9.18

Source: Rice Market News and Milling and Baking News

NA - Not available.

Table 14.--Rice, rough and milled: U.S. exports by country of destination, August-July, 1972, 1973, and 1974

Country of destination	1972/73	1973/74	1974/75 (Prel.)	Country of destination	1972/73	1973/74	1974/75 (Prel.)
		Cwt.				Cwt.	
<u>Rough Rice</u>				<u>Milled Rice cont'd</u>			
Other	---	---	4,392	<u>Asia</u>			
Bahrain	742	---	---				
Belize	---	156	---	Arabia Pen. States	13,713	390,618	2,542,433
Brazil	110	239	45	Bahrain	829	31,442	2,313
Canada	3,812	3,591	1,963	Bangladesh	98,488	1,117	6,542,063
Colombia	1,651	---	---	Hong Kong	544,673	1,033,846	121,314
French Pac. Isles	---	103	---	India	200	---	10,030
Guatemala	2,000	200	2,939	Indonesia	3,910,138	1,320,185	926,353
Haiti	2,650	1,560	73	Iran	745,262	936,098	9,939,246
Kuwait	56	---	---	Israel	211,542	63,262	9,933
Mexico	1,472	---	---	Jordan	9,507	10,774	6,792
Nicaragua	2,474	---	142	Kuwait	41,642	84,552	611,626
Spain	210	---	---	Lebanon	26,621	25,072	18,626
Swaziland	306	---	---	Pakistan	72	139	95,999
Total rough	15,483	5,849	9,554	Philippines	1,196,685	1,974	702
				Republic of Korea	10,390,786	3,042,988	12,056,136
<u>Milled Rice</u>				Saudi Arabia	1,262,936	2,075,725	1,588,925
<u>Western Hemisphere</u>				Singapore	278,678	738,742	35,296
				South Vietnam	7,942,209	6,631,126	1,410,561
Bahamas	104,397	200,247	101,035	Syrian Arab Republic	860	2,760	480,506
Barbados	35,345	20,311	5,802	Other	1,636,900	5,241,546	3,742,739
Bermuda	7,820	17,748	6,005	Subtotal	28,311,741	21,631,966	40,141,593
British Honduras	200	---	---				
Canada	1,417,475	1,791,755	1,421,865	<u>Oceania</u>			
Chile	24,893	32,125	34,761				
Costa Rica	756	1,213	1,627	Australia	4,223	8,176	2,013
Dominican Republic	522,591	1,327,377	84	Fr. Pacific Islands	48,476	71,482	18,999
El Salvador	292	55,030	38	New Zealand	26,629	22,246	16,493
French West Indies	48,282	37,827	31,163	Trust Terr. of Pac.	93,350	189,028	41,634
Guatemala	1,491	315	115,987	Other	164,019	160,473	46
Haiti	59,507	50,591	76,730	Subtotal	336,697	451,405	79,185
Honduras	819	1,635	235,319				
Jamaica	188,272	500,959	6,620	<u>Africa</u>			
Leeward & Windward Is.	16,197	45,485	10,130				
Mexico	526	7,302	7,749	Afars & Issas	39,626	17,088	9,497
Netherlands Antilles	127,289	161,607	76,798	Angola	17,003	58,964	5,751
Nicaragua	383	197	---	Cameroon	8,059	2,491	3,871
Panama	133,163	8,905	2,006	Congo	1,619	6,214	1,016
Peru	65	319	389	Gabon	9,748	26,401	1,658
Trinidad & Tobago	97,642	12,406	4,932	Ghana	114,904	72,909	10
Venezuela	35	461	55	Guinea	13,059	28,174	383,392
Other	182	198,940	5,290	Ivory Coast	49,630	31,810	24,175
Subtotal	2,787,622	4,472,755	2,144,385	Kenya	---	106	45
				Liberia	643,989	616,771	528,544
<u>Europe</u>				Libya	48,910	56,815	21,627
				Malawi	175	265	208
Austria	26,445	31,299	25,370	Mauritius	24,835	6,059	12,224
Belgium & Luxembourg	232,655	500,139	213,589	Nigeria	16,846	45,381	72,636
Cyprus	4,456	7,812	724	O.W.A.F.	20,508	45,788	35,930
Denmark	59,673	53,545	28,001	Rep. of So. Africa	1,969,533	1,943,527	1,181,492
Finland	22,264	29,490	19,251	Senegal	201,799	104,692	406,165
France	475,452	268,047	264,134	Sierra Leone	39,450	312,465	---
Greece	24,055	426,938	1,150	Somali Republic	30,276	211	590
Iceland	6,174	12,026	5,506	W. Portuguese Africa	37,806	60,770	---
Ireland	11,036	1,724	4,596	Zambia	1,637	3,035	3,128
Netherlands	557,465	670,936	400,837	Other	27,966	543,352	722,387
Norway	10,357	30,378	14,815	Subtotal	3,317,378	3,983,288	3,414,346
Portugal	2,313	44,662	6,286				
Sweden	115,712	220,277	125,199	Total milled 1/	38,750,991	35,583,306	49,686,139
Switzerland	265,974	315,380	293,820				
United Kingdom	997,731	511,255	724,907				
West Germany	1,172,078	1,530,506	1,103,761				
Other	13,713	389,478	674,684				
Subtotal	3,997,553	5,043,892	3,906,630				

1/ No adjustment of brown and parboiled rice has been made; treated as milled rice. Totals do not reflect revisions issued in December by Census.

Agricultural Marketing Service, Grain Division.

Table 15.--Rice: World production, trade, and U.S. stocks
for 1972/73, 1973/74, 1974/75 and projected levels
for 1975/76 1/

Country or region	1972/73	1973/74	1974/75 (Preliminary)	1975/76 (Projected)
- - - - Million metric tons - - - -				
<u>Production: 2/</u>				
Bangladesh	14.9	17.6	17.1	18.5
Burma	7.4	8.6	8.6	8.7
India	58.9	65.7	59.5	66.0
Indonesia	20.5	21.6	23.8	25.0
Japan	14.9	15.2	15.4	15.6
Korea, Rep. of	5.5	5.9	6.2	6.4
Pakistan	3.5	3.7	3.5	3.8
PRC	109.4	113.0	117.9	118.0
Thailand	12.2	14.4	14.5	14.8
Sub-total	247.2	265.7	266.5	276.8
EC-9	.8	1.1	1.0	1.0
Australia	.3	.4	.4	.5
Argentina	.3	.3	.4	.4
Brazil	5.4	6.3	6.5	6.5
All Others	40.3	43.2	45.8	49.1
Total non U.S.	294.3	317.0	320.6	334.3
USA	3.9	4.2	5.2	5.7
World total	298.2	321.2	325.8	340.0
Calendar Years				
	1973	1974	1975	1976
- - - - Million metric tons - - - -				
<u>Exports: 3/</u>				
Burma	.2	.2	.4	.4
Japan	.5	.3	---	---
Pakistan	.8	.5	.5	.5
PRC	2.0	1.9	1.8	1.8
Thailand	.9	1.0	1.3	1.3
Sub-total	4.4	3.9	4.0	4.0
All Others	1.2	1.8	1.3	1.2
Total non U.S.	5.6	5.7	5.3	5.2
USA	1.6	1.7	2.3	2.3
World total	7.2	7.4	7.6	7.5
<u>Imports: 3/</u>				
Bangladesh	.2	.1	.3	.3
EC-9	.6	.6	.6	.6
Hong Kong	.4	.3	.4	.4
Indonesia	1.7	1.8	.7	.7
Iran	.1	.1	.5	.5
Khmer (Cambodia)	.1	.3	.4	.1
Korea, Rep. of	.4	.3	.5	.4
Philippines	.3	.2	.2	.2
Sri Lanka (Ceylon)	.3	.3	.5	.4
South Vietnam	.3	.3	---	---
All Others	2.8	3.1	3.5	3.9
World total	7.2	7.4	7.6	7.5
<u>Stocks:</u>				
USA (ending July 31)	.2	.3	.3	.5

1/ Production is on a rough basis; trade and stocks are listed as milled.

2/ The world rice harvest stretches over 6-8 months. Thus 1975/76 production represents the crop harvested in late 1975 and early 1976 in the Northern Hemisphere, and the crop harvested in early 1976 in the Southern Hemisphere.

3/ Trade data are on a calendar year basis.

Table 16 --Rice: Export prices at Thailand by months, white f.o.b. Bangkok, 1971-75 1/

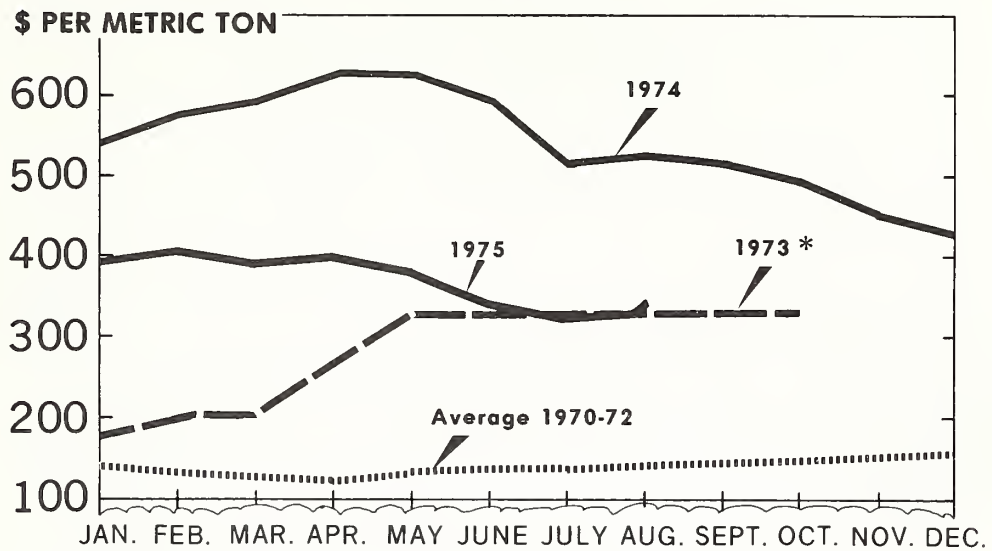
[illegible]

1/ Milled rice, includes export premium, export tax and cost of bags. Packed in bags of 100 kgs. net.
2/ Preliminary.

3/ Export prices for one week only. Beginning March 7 thru December 31, 1973 prices were not quoted. May-October average for 5% brokens estimated at \$330.00 per metric ton.

AMS. Grain Division, from weekly Bulletins of San Francisco Market News.

RICE: EXPORT PRICES AT THAILAND, WHITE 5% BROKENS, F.O.B. BANGKOK



* BEGINNING MARCH 7, THRU DECEMBER 31, 1973, PRICES WERE NOT QUOTED. MAY-OCTOBER AVERAGE WAS ESTIMATED AT \$330.00.

U.S. DEPARTMENT OF AGRICULTURE

NEG. ERS 91-A-75 (9)

ECONOMIC RESEARCH SERVICE

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L I S T O F T A B L E S
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RICE

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RS-26

OCTOBER 1975

Weights, Measures and Conversion Factors

Bushel weights:

Wheat & soybeans = 60 lbs.
Corn, sorghum & rye = 56 lbs.
Barley (grain) = 48 lbs.; malt = 34 lbs.
Oats = 32 lbs.

Bushels to metric tons:

Wheat & soybeans = bushels x .027216
Barley = bushels x .021772
Corn, sorghum, rye = bushels x .025400
Oats = bushels x .014515

1 Metric ton equals:

2204.622 lbs.
22.046 hundredweight
10 quintals

1 cwt. = 2.22 bushels = .617 barrels = .0453 metric tons
1 bu. = .45 cwt. = .277 barrels = .0204 metric tons
1 barrel = 3.6 bu. = 1.62 cwt. = .0734 metric tons
1 metric ton = 48.992 bu. = 13.609 barrels = 22.046 cwt.
bu. per acre x 0.5044 = quintals per hectare
lbs. per acre x 0.01121 = quintals per hectare

Rice Factors

1 cwt. rough rice = .032659 metric ton milled
1 metric ton milled = 30.6198 cwt. rough

Milling rates

Rough to brown = 82%
Rough to milled = 72%



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AGR 101

FIRST CLASS

1,000 kilograms
36,7437 bushels wheat or soybeans
39,3679 bushels corn, sorghum, or rye
45,9296 bushels barley
68,8944 bushels oats

Area:

1 Acre = .404694 hectares
1 Hectare = 2.4710 acres

Yields:

Wheat = bushels per acre x 0.6725 = quintals per hectare
Rye, corn = bushels per acre x 0.6277 = quintals per hectare
Barley = bushels per acre x 0.5380 = quintals per hectare
Oats = bushels per acre x 0.3587 = quintals per hectare